

FIG. 1



Front and Back Side Oxide Patterning

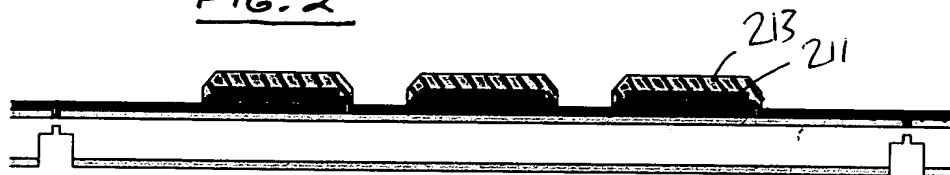
Back Side DRIE Etching

1st Cr/Au Deposition and Patterning (100Å/3000Å)

1st Parylene Deposition (1μm)

FIGURE 1

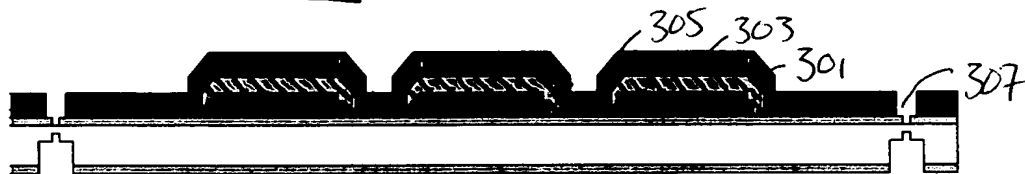
FIG. 2



Sputtered Si Deposition and Patterning (3000Å)

1st Sacrificial Photoresist Patterning (4μm)

FIG. 3



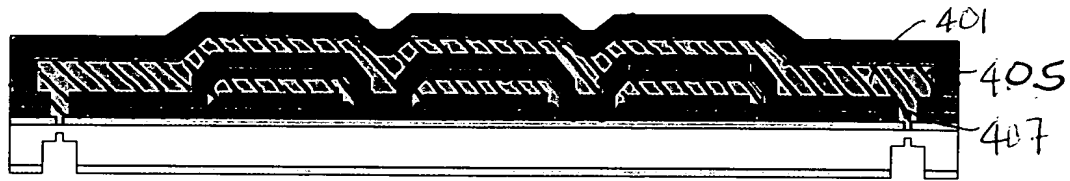
2nd Parylene Deposition and Patterning (1μm)

2nd Cr/Au Deposition and Patterning (100Å/1500Å)

3rd Parylene Deposition and Patterning (1μm)

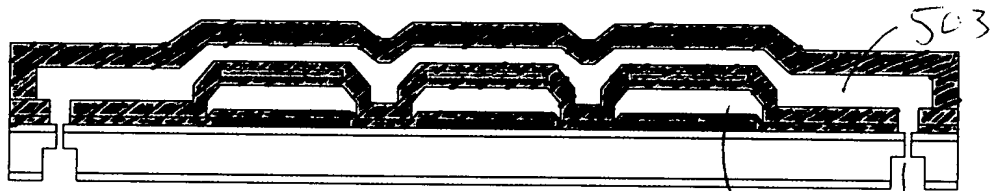
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FIG. 4



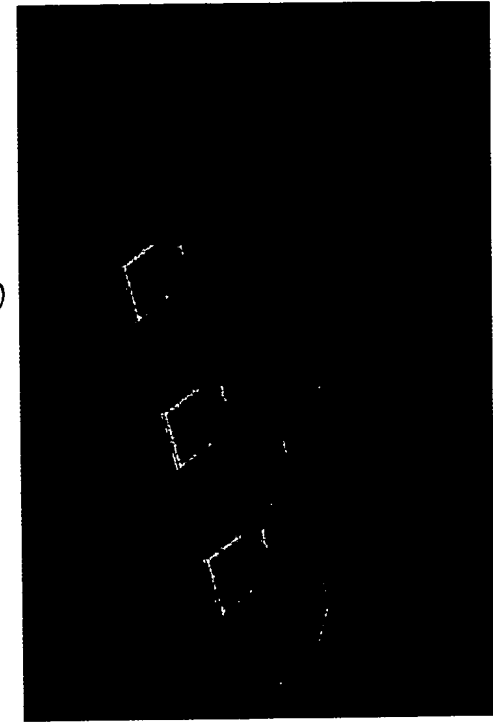
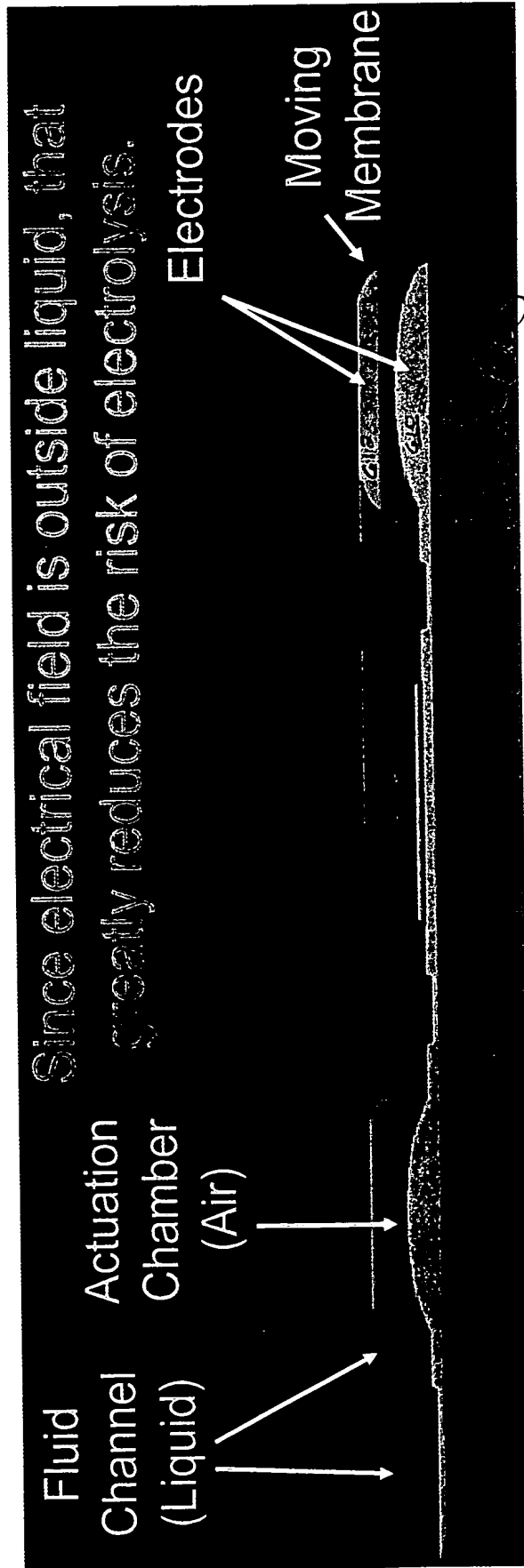
2nd Sacrificial Photoresist Patterning ( $5\mu\text{m}$ )  
 4th Parylene Deposition and Patterning ( $4\mu\text{m}$ )

FIG. 5



DRIE Open Backside Inlet and Outlet  
 Acetone Release Sacrificial Photoresist  
 BrF<sub>3</sub> Release Sacrificial Si

				
1st Cr/Au	2nd Cr/Au	Si	Photoresist	Parylene



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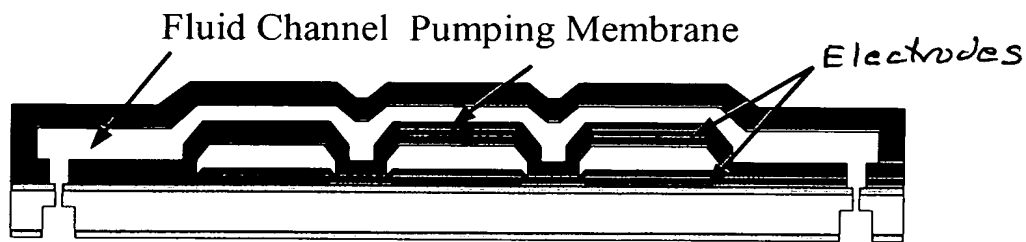
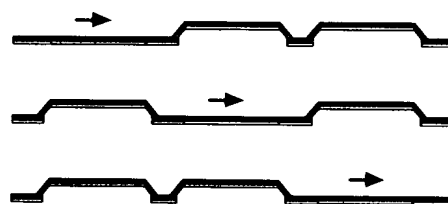


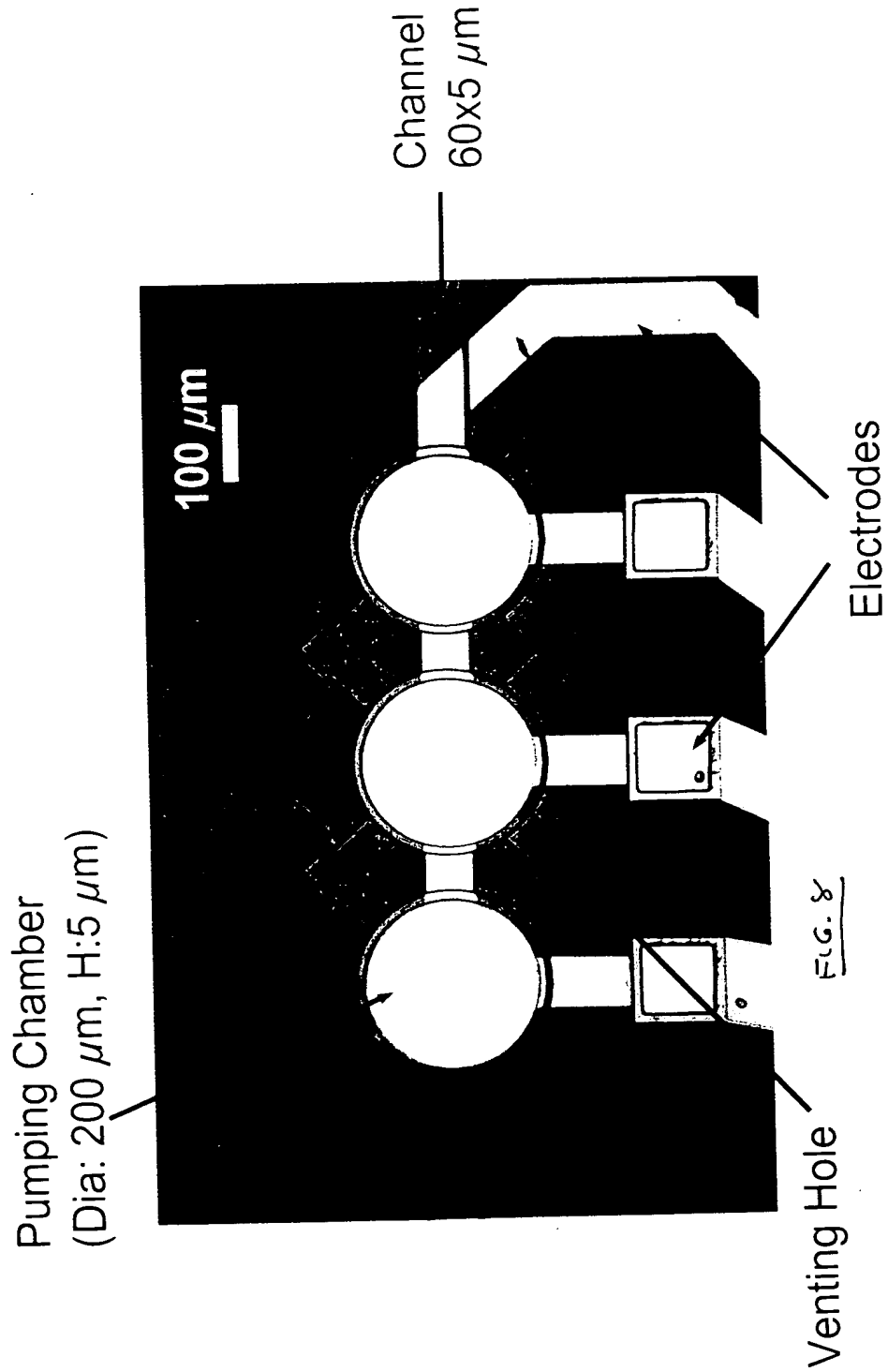
FIG. 7A

FIG. 7B



3 Phase Actuation

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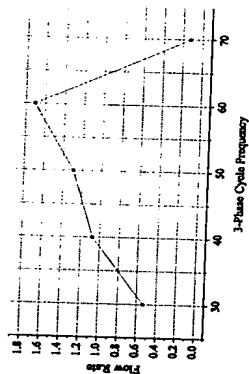


FIGURE 10

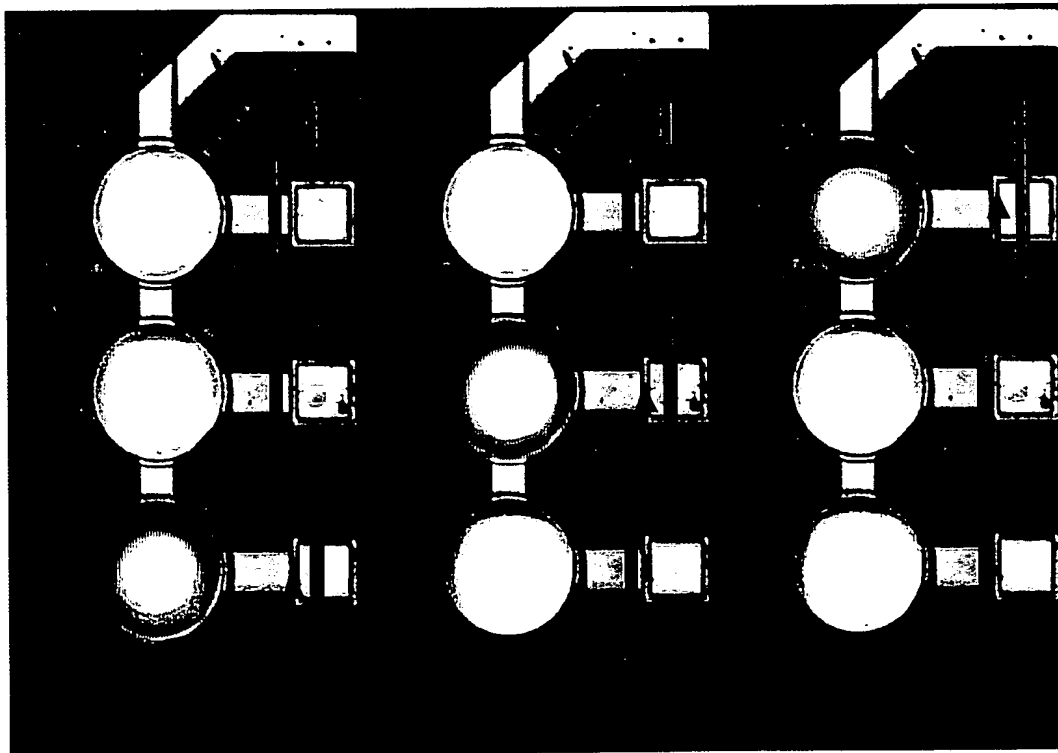


FIG. 9

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FIG. 11A

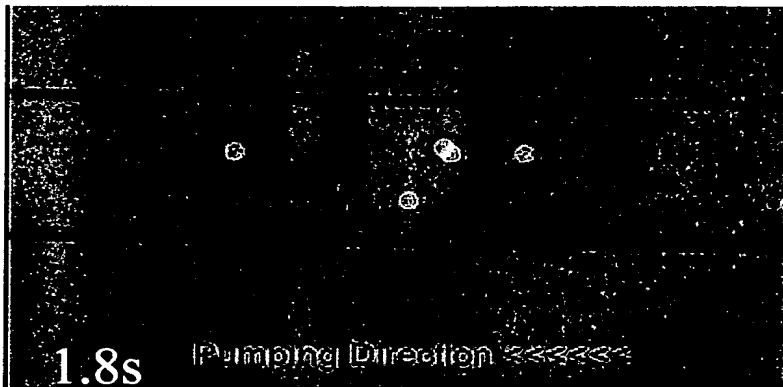


FIG. 11B



FIG. 11C

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